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Halliburton Docket No.: 2001-IP-003050 U1 USA
Attorney Docket No.: 1301-1135

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application:	David E. McMechan et al.
Serial No.:	10/624,109
Filed:	July 21, 2003
Art Unit:	3672
Confirmation No.:	6120
Examiner:	Jennifer Hawkins Gay
For:	Apparatus and Method for Monitoring a Treatment Process in a Production Interval

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Pre Appeal Brief Request for Review

Dear Sir:

This Request is being filed in connection with a Notice of Appeal.

Status

Claims 1-49 are presently pending of which claims 1, 12, 22 and 36 are in independent form with claims 2-11, 13-21, 23-35 and 37-49 respectively dependent therefrom. The Examiner has rejected claims 1-49 under 35 U.S.C. §102(e) as being anticipated by Wetzel et al., U.S. Patent No. 6,817,410 (hereinafter "Wetzel"). (See 2/23/06 Office Action).

Independent Claims 1, 12, 22 and 36 are Not Anticipated by Wetzel

Independent claims 1, 12, 22 and 36 have been rejected as being anticipated by Wetzel, but this reference does not teach, either expressly or inherently, each and every element as set forth in the claims as required to establish anticipation. (See MPEP §2131). Specifically, neither the applicant nor the Examiner has identified within Wetzel the explicitly-recited limitation of ***regulating a characteristic of the treatment fluid***. The Examiner has cited column 10, lines 16-34 of Wetzel for this teaching, which reads as follows:

> In another embodiment, a completion having a fiber optic line 60 (or one or more sensors) is placed in a well. A proppant is heated prior to injection into the well. While the proppant is injected into the well, the temperature is measured to determine the placement of the proppant. In an alternative embodiment the proppant has an initial temperature that is lower than the well temperature.
>
> Similarly, the fiber optic line 60 or sensors 62 may be used to determine the placement of a fracturing treatment, chemical treatment, cement, or other well treatment by measuring the temperature or other well characteristic during the injection of the fluid into the well. The temperature may be measured during a strip rate test in like manner. In each case remedial action may be taken if the desired results are not achieved (e.g., injecting additional material into the well, performing an additional operation). It should be noted that in one embodiment, a surface pump communicates with a source of material to be placed in the well. The pump pumps the material from the source into the well. Further, the intelligent completions device (e.g., sensor, fiber optic line) in the well may be connected to a controller that receives the data from the intelligent completions device and provides an indication of the placement of the placement position using that data. In one example, the indication may be a display of the temperature at various positions in the well. (Wetzel, column 10, lines 16-34).

A careful review of this excerpt as well as the entire disclosure of Wetzel, reveals that there is no teaching of ***regulating a characteristic of the treatment fluid***. Instead, Wetzel teaches that "a service tool is run into the well and a gravel pack slurry is injected into the well using a standard gravel pack procedure." (Wetzel, column 9, lines 39-42). During and following the conventional pumping operation, Wetzel teach the use of an intelligent completion system that includes gauges, sensors, valves and sampling devices including temperature sensors, pressure sensors, flow-control devices and flow rate measurement devices to collect data relating to the treatment operation. Wetzel then teaches that remedial action may be taken if the desired results are not achieved. (Wetzel, column 9, lines 56-57; column 10, lines 21-23). Wetzel teaches three such remedial actions that may be taken, namely, isolating the zone with the failed pack (Wetzel, column 9, lines 60-62), injecting more material into the well (Wetzel, column 9, lines 62-63 and column 10, line 23) and performing additional operations (Wetzel, column 10, line 24). As such, Wetzel teaches that following the gravel packing process, information provided by the sensors can be used to determine whether remedial action should be taken to correct a failed pack. If such remedial action is required, Wetzel teaches that these remedial actions are to abandon the zone, pump more of the same treatment fluid or additional operations. None of the remedial actions enumerated in Wetzel,

however, involve ***regulating a characteristic of a treatment fluid.*** In fact, this type of remediation following a treatment process is exactly the problem solved by the present invention which enables real time adjustments to the treatment fluid. These real time adjustments are enabled by sensing data relative to a property of the treatment fluid during the treatment process and using this data to ***regulate a characteristic of the treatment fluid.*** (See Application Paragraphs [0007] and [0008]). Accordingly, Wetzel fails to teach at least one limitation explicitly recited in each of claims 1, 12, 22 and 36.

Independent Claim 22 is Not Anticipated by Wetzel

Independent claim 22 has been rejected as being anticipated by Wetzel, but this reference does not teach, either expressly or inherently, each and every element as set forth in the claim as required to establish anticipation. (See MPEP §2131). Specifically, neither the applicant nor the Examiner has identified within Wetzel the explicitly-recited limitation of ***regulating a characteristic of the treatment fluid during the injecting based upon the data.***

First, it is noted that the Examiner has not specifically identified any teaching within Wetzel related to the recited ***regulating step*** of claim 22. In the first two office actions, the Examiner merely states that "[m]ethod claims 22-27, 29 and 31-35 recite the operational steps related to the apparatus limitations of claims 1 and 8-11, and are therefore rejected for the same reasons enumerated above in the rejections of claims 1 and 8-11." (See 4/13/05 Office Action, page 6 and 9/28/05 Office Action, page 4). In the most recent office action, Examiner makes no mention of any portion of Wetzel related to claim 22. While the Examiner has addressed each of the other claims with a specific citation to a section of Wetzel, claim 22 is conspicuously absent from this analysis.

As to the Examiner's position that claim 22 is the method equivalent of claim 1, this fails to recognize the differences in the limitations of these claims. Specifically, claim 1 recites "a characteristic of the treatment fluid is regulatable ***during the treatment process*** based upon the data" while claim 22 recites "regulating a characteristic of the treatment fluid ***during the injecting*** based upon the data." In rejecting claim 1, the Examiner has argued that the term "treatment process" may encompass not only the injection of the treatment fluid but also any subsequent remedial action and even equipment removal. (See 2/23/06 Office Action, page 4). Assuming arguendo, that such a

broad interpretation is of the term "treatment process" is proper, claim 22 requires a characteristic of the treatment fluid to be regulated ***during the injecting***. Even if Wetzel could be read to teach regulating a characteristic of the treatment fluid ***during the treatment process***, which it cannot, Wetzel does not teach that such regulation can take place ***during the injecting***. As such, in addition to Wetzel's failure to teach regulating a characteristic of the treatment fluid, Wetzel additionally fails to teach, disclose or even suggest the regulation of a characteristic of a treatment fluid while the treatment fluid is being injected into the production interval. Accordingly, Wetzel fails to teach at least one limitation explicitly recited in claim 22.

Claims 9, 20, 33-35 and 47-49 are Not Anticipated by Wetzel

Claim 9, 20, 33-35 and 47-49 have been rejected as being anticipated by Wetzel, but this reference does not teach, either expressly or inherently, each and every element as set forth in the claims as required to establish anticipation. (See MPEP §2131). Specifically, neither the applicant nor the Examiner has identified within Wetzel the explicitly-recited limitations relating to adjusting fluid viscosity, proppant concentration or flow rate of a treatment fluid. The Examiner has cited column 9, line 56 to column 10, line 34 of Wetzel for this teaching, which reads as follows:

> If it is determined that a proper pack has not been achieved, remedial action may be taken. In one embodiment, the gravel packed zone has an isolation sleeve, intelligent completions valve, or isolation valve therein that allows the zone to be isolated from production. Thus, if a proper gravel pack is not achieved, the remedial action may be to isolate the zone from production. Other remedial action may comprise injecting more material into the well.
>
> In an alternative embodiment, sensors are used to measure the temperature. In yet another alternative embodiment, the fiber optic line or sensors are used to measure the pressure, flow rate, or sand detection. For example, if sand is detected during production, the operator may take remedial action (e.g., isolating or shutting in the zone producing the sand). In another embodiment, the sensors or fiber optic line measure the stress and/or strain on the completion equipment (e.g., the sand screen 28) as described above. The stress and strain measurements are then used to determine the compaction of the gravel pack. If the gravel pack is not sufficient, remedial action may be taken. (Wetzel, column 9, line 56-column 10, line 9; see above column 10, lines 16-34).

A careful review of this excerpt as well as the entire disclosure of Wetzel, reveals that there is no teaching of regulating a characteristic of the treatment fluid much less regulating a specific

characteristic such as fluid viscosity, proppant concentration or flow rate. Accordingly, Wetzel fails to teach at least one limitation explicitly recited in each of claims 9, 20, 33-35 and 47-49.

Claim 10 is Not Anticipated by Wetzel

Claim 10 has been rejected as being anticipated by Wetzel, but this reference does not teach, either expressly or inherently, each and every element as set forth in the claim as required to establish anticipation. (See MPEP §2131). Specifically, neither the applicant nor the Examiner has identified within Wetzel the explicitly-recited limitations relating to a downhole mixer. The Examiner has cited figure 2 for the teaching of a downhole mixer. A careful review of this figure as well as the entire disclosure of Wetzel, reveals that there is no teaching of a downhole mixer. Accordingly, Wetzel fails to teach at least one limitation explicitly recited in claim 10.

Conclusion

In view of the forgoing, the Panel is respectfully requested to allow claims 1-49.

Dated this 20th day of May, 2005.

Respectfully submitted:

Lawrence R. Youst
Reg. No. 38,795
Danamraj & Youst, P.C.
Premier Place, Suite 1450
5910 North Central Expressway
Dallas, Texas 75206
Tel 214.363.4266
Fax 214.363.8177